

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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In re application of: Shizuo AKIRA et al.

Art Unit: Unassigned

Appl. No.: Unassigned

Examiner: Unassigned

Filing Date: March 19, 2002

Atty. Docket No.: 31671-178057

For: RECEPTOR PROTEIN
SPECIFICALLY RECOGNIZING
BACTERIAL DNA

Customer No.



26694

PATENT TRADEMARK OFFICE

Information Disclosure Statement

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

This is an Information Disclosure Statement submitted under 37 C.F.R. § 1.97 within the time specified under 37 C.F.R. § 1.97(b).

In order to comply the duty of disclosure pursuant to 37 C.F.R. § 1.56, submitted herewith is a form listing the documents cited in the specification and cited in the enclosed International Search report of International Application No. PCT/JP01/04731.

Cite Nos. AG-AI, AY, BJ-BM, BO, BP, BQ and BT which are cited in the International Search Report are not being provided since copies are furnished directly by WIPO under an exchange program between the PTO, the EPO and the JPO.

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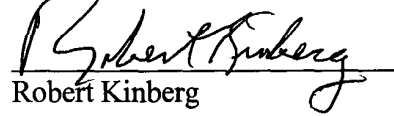
In view of the above, no further statement of relevance need be given, and as all requirements of 37 C.F.R. § 1.97 and § 1.98, and all official guidelines pertaining to

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31671-178057

Information Disclosure Statements have been complied with, it is respectfully requested that the Examiner consider the cited publications and make them of record.

Date: 3/19/02

Respectfully submitted,



Robert Kinberg

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Substitute for form 1449A/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Application Number	Unassigned
				Filing Date	March 19, 2002
				First Named Inventor	Shizuo AKIRA et al.
				Group Art Unit	Unassigned
				Examiner Name	Unassigned
Sheet	1	of	5	Attorney Docket Number	31671-178057

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	AA	Carl HASHIMOTO et al., "The Toll Gene of Drosophila, Required for Dorsal-Ventral Embryonic Polarity, Appears to Encode a Transmembrane Protein", Cell, Vol. 52, 269-279, January 29, 1988	
	AB	Marcia P. BELVIN et al., "A CONSERVED SIGNALING PATHWAY: The Drosophila Toll-Dorsal Pathway", Annu. Rev., Cell Dev. Biol. 12, pages 393-416, 1996	
	AC	Bruno LEMAITRE et al., "The Dorsoventral Regulatory Gene Cassette spätzle/Toll/cactus Controls the Potent Antifungal Response in Drosophila Adults", Cell, Vol. 86, pages 973-983, September 20, 1996	
	AD	Scientific Correspondence, Nature 351, pages 355-356, May 31, 1991	
	AE	Luke A. J. O'NEILL et al., "Signal transduction pathways activated by the IL-1 receptor family: ancient signaling machinery in mammals, insects, and plants", J. Leukoc. Biol. 63, pages 650-657, June 1988	
	AF	Ruslan MEDZHITOV et al., "A human homologue of the Drosophila Toll protein signals activation of adaptive immunity", Nature, Vol. 388, pages 394-397, July 24, 1997	
	AG	Fernando L. ROCK et al., "A family of human receptors structurally related to Drosophila Toll", Proc. Acad. Sci. USA 95, pages 588-593, January 1998	
	AH *	Preet M. CHAUDHARY et al., "Cloning and Characterization of Two Toll/Interleukin-1 Receptor-Like Genes TIL3 and TIL4: Evidence for a Multi-Gene Receptor Family in Humans", Blood, Vol. 91, pages 4020-4027, June 1998	
	AI *	O. TAKEUCHI et al., "TLR6: A novel member of an expanding Toll-like receptor family", Gene 231, pages 59-65, 1999	
	AJ	Marta MUZIO et al., "The Human Toll Signaling Pathway: Divergence of Nuclear Factor KB and JNK/SAPK Activation Upstream of Tumor Necrosis Factor Receptor-associated Factor 6 (TRAF6)", J. Exp. Med. 187, pages 2097-2101, June 15, 1998	
	AK	Ruslan MEDZHITOV et al., "MyD88 Is an Adaptor Protein in the hToll/IL-1 Receptor Family Signaling Pathways", Molecular Cell, Vol. 2, pages 253-258, August 1998	

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	AL	Taro KAWAI et al., "Unresponsiveness of MyD88-Deficient Mice to Endotoxin", Immunology, Vol. 11, pages 115-122, July 1999	
	AM	Ruslan MEDZHITOV et al., "Innate Immunity: The Virtues of a Nonclonal System of Recognition", Cell, Vol. 91, pages 295-298, October 31, 1997	
	AN	David C. MORRISON et al., "Bacterial Endotoxins and Host Immune Responses", Advances In Immunology, Vol. 28, pages 293-450, 1979	
	AO	R.J. ULEVITCH et al., "Receptor-Dependent Mechanisms of Cell Stimulation by Bacterial Endotoxin", Annu. Rev. Immunol. Vol.13, pages 437-457, 1995	
	AP	Samuel D. WRIGHT, "CD14, a Receptor for Complexes of Lipopolysaccharide (LPS) and LPS Binding Protein", Science 249, pages 1431-1433, September 21, 1990	
	AQ	Katsuaki HOSHINO et al., "Cutting Edge: Toll-Like Receptor 4 (TLR4)-Deficient Mice Are Hyporesponsive to Lipopolysaccharide: Evidence for TLR4 as the Lps Gene Product", J. Immunol. 162, pages 3749-3752, 1999	
	AR	Osamu TAKEUCHI et al., "Differential Roles of TLR2 and TLR4 in Recognition of Gram-Negative and Gram-Positive Bacterial Cell Wall Components", Immunity, Vol.11, pages 443-451, October 1999	
	AS	Arthur M. KRIEG, "Lymphocyte activation by CPG dinucleotide motifs in prokaryotic DNA", Trends In Microbiology, Vol. 4, No. 2, pages 73-76, February 1996	
	AT	Grayson B. LIPFORD et al., "Bacterial DNA as immune cell activator" Trends In Microbiology, Vol. 6, No. 12, pages 496-500, December 1998	
	AU	Hans HACKER et al. "Cell type-specific activation of mitogen-activated protein kinases by CpG-DNA controls interleukin-12 release from antigen-presenting cells", EMBO J., Vol. 18, No. 24, pages 6973-6982, 1999	
	AV	Thilo JAKOB et al., "Activation of Cutaneous Dendritic Cells by CpG-Containing Oligodeoxynucleotides: A Role for Dendritic Cells in the Augmentation of Th1 Responses by Immunostimulatory DNA", J. Immunol. 161, pages 3042-3049, 1998	

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Sheet 3 of 5

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	AW	G. HARTMAN et al., "CpG DNA: A potent signal for growth, activation, and maturation of human dendritic cells", Proc. Natl. Acad. Sci. USA 96, pages 9305-9310, August 1999	
	AX	Hermann WAGNER, "Bacterial CpG DNA Activates Immune Cells to Signal Infectious Danger", Adv. Immunol., Vol. 73, pages 329-368, 1999	
	AY	Arthur M. KRIEG, "The role of CpG motifs in innate immunity", Curr. Opin. Immunol. 12, pages 35-43, 2000	
	AZ	"Continuous cultures of fused cells secreting antibody of predefined specificity", Nature Vol. 256, pages 495-497 August 7, 1975	
	BA	Danuta KOZBOR et al., "The production of monoclonal antibodies from human lymphocytes", Immunology Today, Vol. 4, No. 3, page 72, 1983	
	BB	S.P.C. COLE et al., "The EBV-Hybridoma Technique and Its Application to Human Lung Cancer", Monoclonal Antibodies and Cancer Therapy, pages 77-96, Alan R. Liss, Inc. 1985	
	BC	Leonard DAVIS et al., "Basic Methods In Molecular Biology", 2nd Edition, 1986, cover and bibliographic pages only	
	BD	France PIETRI-ROUXEL et al., "The biochemical effect of the naturally occurring Trp64-Arg mutation on human β 3-adrenoceptor activity", Eur. J. Biochem., 247, pages 1174-1179, 1997	
	BE	Shin TAKAGI et al., "Expression of a Cell Adhesion Molecule, Neuropilin, in the Developing Chick Nervous System", Dev. Biol. 170, pages 207-222, 1995	
	BF	Atsushi KAWAKAMI et al., "Developmentally Regulated Expression of a Cell Surface Protein, Neuropilin, in the Mouse Nervous System", J. Neurobiol., Vol. 29, No. 1, pages 1-17, 1996	
	BG	Makoto MATSUMOTO et al., "A Novel LPS-Inducible C-Type Lectin Is a Transcriptional Target of NF IL6 in Macrophages ¹ ", J. Immunol. 163, pages 5039-5048, 1999	

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Sheet 4 of 5	Attorney Docket Number	31671-178057	

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	BH	Kayo INABA et al., "Generation of Large Numbers of Dendritic Cells from Mouse Bone Marrow Cultures Supplemented with Granulocyte/Macrophage Colony-stimulating Factor", J. Exp. Med., Vol. 176, December 1992	
	BI	Taro KAWAI et al., "Unresponsiveness of MyD88-Deficient Mice to Endotoxin", Immunity, Vol. 11, pages 115-122, July 1999	
	BJ *	Hiroaki HEMMI et al., "A Toll-like receptor recognizes bacterial DNA", Nature, Vol. 408, pages 740-745, December 7, 2000	
	BK	Xin DU et al., "Three novel mammalian toll-like receptors: gene structure, expression, and evolution" Eur. Cytokine Netw., Vol. 11, No. 3, pages 362-371, September 2000	
	BL	Gerard T. HARDIMAN et al., WO98/50547 (AU 9871754, EP980429)	
	BM	Elizabeth B. KOPP et al., "The Toll-receptor family and control of innate immunity", Curr. Opin Immunol. 11, pages 13-18, 1999	
	BN	Fernando L. ROCK et al., "A family of human receptors structurally related to Drosophila Toll", Proc. Natl. Acad. Sci. USA 95, pages 588-593, January 1998	
	BO	Douglas T. FEARON, "Seeking wisdom in innate immunity", Nature, Vol. 388, pages 323-324, July 24, 1997	
	BP	WO99/51259 (AU9934678, EP1067956, US6218371)	
	BQ	Osamu TAKEUCHI et al., "Cellular responses to bacterial cell wall components are mediated through MYD88-dependent signaling cascades", Int. Immunol. 12, No. 1, pages 113-117, 2000	
	BR *	LADNER et al., "Single Polypeptide Chain Binding Molecules", U. S. Patent No. 4,946,778, August 7, 1990	

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